



A.D. 1847 N^o 11,596.

S P E C I F I C A T I O N

OF

FREDERICK RANSOME.

WORKING COKE AND OTHER KILNS
OR OVENS.

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Working Coke and other Kilns or Ovens.

RANSOME'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, FREDERICK RANSOME, of Ipswich, in the County of Suffolk, Engineer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her Royal Letters Patent under the Great Seal of the United Kingdom of Great
5 Britain and Ireland, bearing date at Westminster, the Twenty-fourth day of February, One thousand eight hundred and forty-seven, in the tenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Frederick Ransome, my exors, admors, and assigns, Her especial licence, full power, sole privilege and authority, that I, the said Frederick
10 Ransome, my exors, admors, and assigns, or such others as I, the said Frederick Ransome, my exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my
15 Invention of "IMPROVEMENTS IN WORKING COKE AND OTHER KILNS OR OVENS;" in which said Letters Patent is contained a proviso that I, the said Frederick Ransome, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, to be inrolled in Her said Majesty's
20 High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

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NOW KNOW YE, that in compliance with the said proviso, I, the said Frederick Ransome, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are fully described and ascertained in and by the following statement thereof, that is to say:—

5

My Invention consists of improvements in cooling coke and other kilns or ovens by causing air to circulate or pass by mechanical apparatus or means through flues or passages used for cooling such kilns and ovens and the charges therein.

And in order that my Invention may be fully understood and readily 10 carried into effect, I will proceed to describe the means pursued by me.

In working of coke kilns or ovens, the cooling has been and is of late years extensively done by having air passages or flues arranged in such manner as to allow air freely to circulate in contact with the inner lining of the oven or kiln, the air not coming in contact with the charge in the kiln or oven, such 15 circulation of the air in the passages or flues being caused by the rarification of the air by the heat of the flues or passages; and such mode of working coke ovens is according to a Patent granted to Jabez Church, on the Twentieth day of December, One thousand eight hundred and forty-five. This mode of making coke is very superior to the old mode, where the charge is drawn 20 when hot, and cooled down by water. In working of such description of coke ovens or kilns, I have found that the time of cooling of a kiln or oven is very uncertain, depending on the state of the outer atmosphere; and I have found that it is important to cool down the charge as quickly as possible, so long as the atmosphere is excluded from the charge. In coke ovens 25 constructed according to the said Letters Patent, the air, after passing through the passages or flues, simply rises through a short pipe into the atmosphere by its levity, the pipe having little if any effect in causing the circulation or passage of the air through the flues or passages. I have found that by hastening the draft, ovens or kilns arranged with passages or flues may be materially 30 quickened in the process of cooling, and this I prefer to do by connecting the air or cooling flues with a rotatory fan or blower, in such manner as to continuously withdraw the air from such flues or passages, by which means the external air will rush into the flues or passages, and thus cool the same quickly, and by these means the charge in the oven or kiln will also be 35 quickly cooled. I would remark, that although I prefer a rotatory fan or blower for such purposes, I do not confine myself thereto, as other well-known arrangements of blowing and exhausting apparatus may be employed, or, in place thereof, the air or cooling flues or passages, or the pipe thereof, may be

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conducted into a high shaft or chimney, thus adding additional power of exhaustion to that which results from the heat of the passages or flues. I however prefer to use a rotatory fan or blowing machinery for such purposes, as being more certain and uniform; and there is also this advantage, that
 5 when using blowing machinery the heated air propelled thereby may be conducted by suitable pipes or apparatus, and thrown into drying rooms or places requiring to be heated.

I have above described the Invention as applied only to coke ovens, but I would state that my Invention is equally applicable to other kilns or ovens
 10 wherever flues or passages may be built in the bottom, sides, or other part or parts of a kiln or oven, so as to have streams of air drawn or forced through by suitable apparatus or mechanical means, as herein described.

I would, however, remark, that I make no claim to building of such flues or passages in ovens or kilns, my Invention consisting of applying mechanical
 15 apparatus or means to air flues of coke or other kilns or ovens, for the purpose of quickening the passage of air through the same, and thus more readily to cool such kilns or ovens and the charges therein.

In witness whereof, I, the said Frederick Ransome, have hereunto set my hand and seal, this Seventh day of August, in the year of our
 20 Lord One thousand eight hundred and forty-seven.

FREDERICK (L.S.) RANSOME.

AND BE IT REMEMBERED, that on the Seventh day of August, in the year of our Lord 1847, the aforesaid Frederick Ransome came before our said Lady the Queen in Her Chancery, and acknowledged the Speci-
 25 fication aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

JACKMAN, Extra.

Enrolled the Twenty-fourth day of August, in the year of our Lord One thousand eight hundred and forty-seven.

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